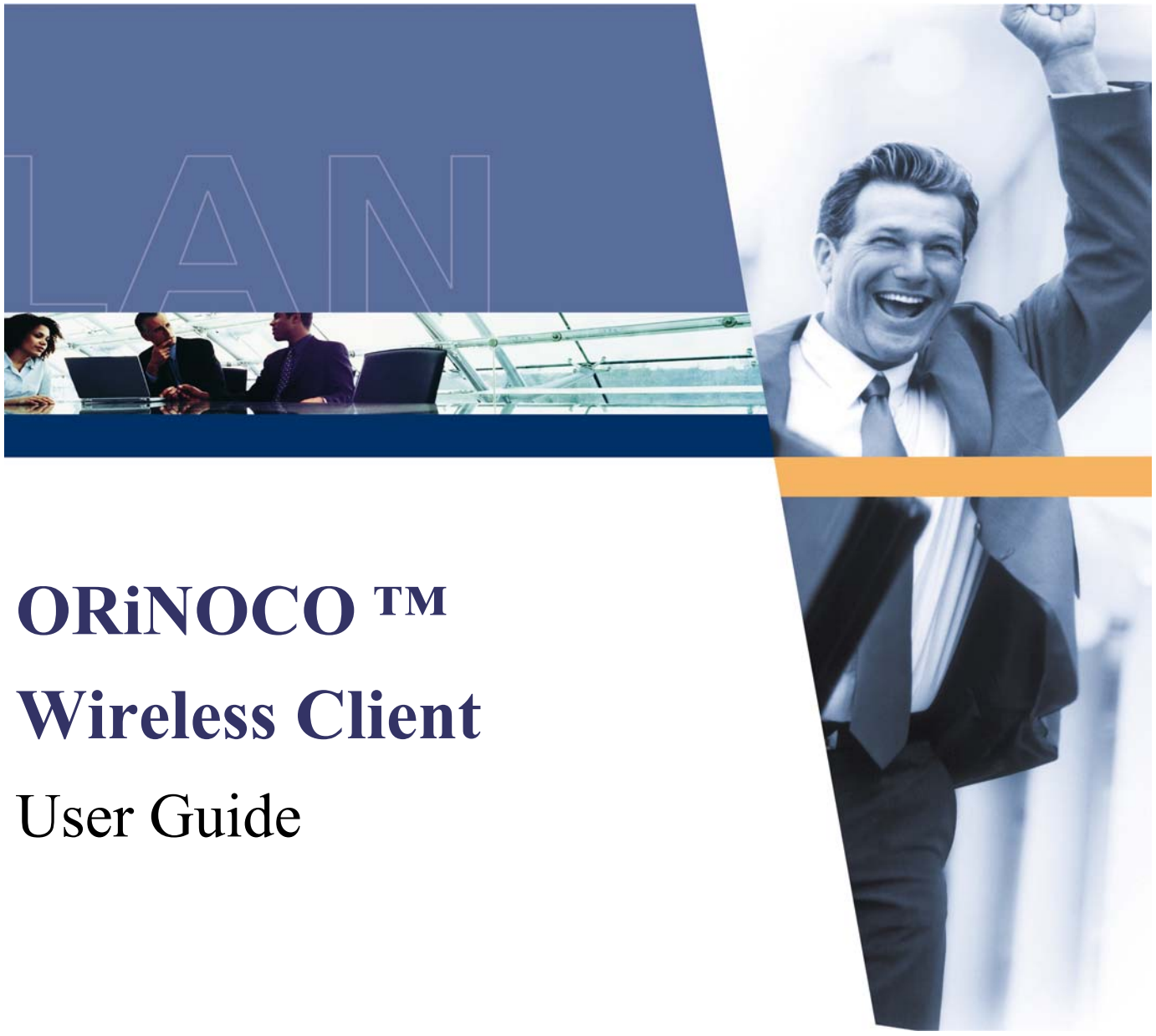

ORiNOCO ™
Wireless Client
User Guide

Proxim wireless

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1

Chapter 1 Introduction

1.1 Introducing the ORiNOCO Wireless Client

Congratulations on your purchase of an ORiNOCO™ Wireless Client, a high performance wireless LAN adapter card that complies with the IEEE 802.11a, 802.11b and/or 802.11g wireless standards. (Standards support varies by client product)

This user manual covers the following ORiNOCO Wireless Client products:

- ORiNOCO 11a/b/g PC Card
- ORiNOCO 11b/g PC Card
- ORiNOCO 802.11a/b/g PC Card

The basic installation and client utility setting described in the following chapters can be applied to all three products; only some of the specifications are different. These differences are explained later in this chapter.

The ORiNOCO™ Wireless Client supports Windows XP and Windows 2000 Computers with an ORiNOCO™ Wireless Client installed “look” like standard network nodes to the operating system.

The ORiNOCO™ Wireless Client can be used with other 802.11a, 802.11b or 802.11g devices to form a stand-alone wireless Peer-to-Peer Group* or used in conjunction with an Access Point infrastructure to provide mobile clients with wireless access to an Ethernet network.

Proxim is a leading manufacturer of wireless networking equipment. Proxim’s unmatched expertise in radio networking technology, combined with the company’s extensive experience serving the communication needs of the mobile computing user, have kept Proxim at the forefront of the wireless Local Area Networking (LAN) market.

*Available features vary by region/country.

1.2 Difference Between ORiNOCO 802.11 Wireless Client Products

This user guide covers the installation and operation of the following ORiNOCO Wireless Client products:

- ORiNOCO 11a/b/g PC Card
- ORiNOCO 11b/g PC Card
- ORiNOCO 11a/b/g PCI Card

Refer to the table below for differences between the two products. For more specification details, please go to A-1 Technical Specifications

Table 1-1 Comparison list of Proxim Wireless Client

Support	11a/b/g PC Card 8480	11b/g PC Card 8470	11a/b/g PCI Card 8482
802.11a	**X**		**X**
802.11b	**X**	**X**	**X**
802.11g	**X**	**X**	**X**
Fastest Radio Data Rate 54Mbps	5 GHz & 2.4 GHz	2.4 GHz	5 GHz & 2.4 GHz
802.11a 2X Turbo	Only supported in US	Only supported in US	Only supported in US
Radio Type	OFDM & DSSS	DSSS	OFDM & DSSS
System Interface	Card Bus for laptop	Card Bus for laptop	PCI for the desktop
Network Architecture Types	Infrastructure and Ad-Hoc	Infrastructure and Ad-Hoc	Infrastructure and Ad-Hoc

X indicates that feature is supported

The installation and configuration procedure is the same for all of the ORiNOCO™ Wireless Client products. During installation, all three products are referred to as an “802.11 Wireless Client.”

1.3 Using a Wireless Local Area Network

A wireless LAN provides the same functionality of a wired network, but it eliminates the need to install networking cables and other networking equipment. Not only is a wireless LAN easier to deploy, but it also allows for mobility through “roaming.” For example, the ORiNOCO 11a/b/g PC Card can roam from a conference room to an office without being disconnected from the network.

1.4 Product Package

Each ORiNOCO™ Wireless Client comes with the following:

1. One ORiNOCO™ Wireless Client
   - ORiNOCO 11a/b/g PC *:
     Card: Model Number 8480
   - ORiNOCO 11b/g PC Card*:
     Model Number 8470
   - ORiNOCO 802.11a/b/g PCI Card:
     Model Number 8482

   * All Cardbus models include two integral antennas (antennas are inside the casing and not visible to the user)

2. One ORiNOCO Installation CD-ROM containing software and utilities and this user guide in Portable Document Format (PDF)
3. One *ORiNOCO™ Wireless Client Quick Start Guide*

If any of these items are missing or damaged, please contact your reseller or ORiNOCO Technical Support (see C-1 Obtaining Technical Service and Support for contact information).

1.5 System Requirements and Specifications

To begin using an ORiNOCO™ Wireless Client, you must have the following minimum requirements:

1. A computer that meets the following specifications:
   - Windows XP or Windows 2000 installed
   - PC Card expansion slot (32-bit CardBus) for the 8480 and 8470 models or a PCI expansion slot for the 8482 model.
   - At least 64 MB of memory
   - A 300 MHz processor or higher
2. At least one other IEEE 802.11a-compliant, 802.11b-compliant or 802.11g-compliant device to which you will connect
   - Customers in Europe who want to use the card in 802.11a mode need an 802.11a-compliant Access Point that supports Dynamic Frequency Selection (DFS); 802.11a Peer-to-Peer Groups are not available in Europe (see the user documentation that came with your 802.11a Access Point for details).

1.5.1 The IEEE 802.11 Specifications

In 1997, the Institute of Electrical and Electronics Engineers (IEEE) adopted the 802.11 standard for wireless devices operating in the 2.4 GHz frequency band. This standard includes provisions for three radio technologies: direct sequence spread spectrum, frequency hopping spread spectrum, and infrared. Devices that comply with the 802.11 standard operate at a data rate of either 1 or 2 Mbps.

In 1999, the IEEE modified the 802.11 standard to support direct sequence devices that can operate at speeds of up to 11 Mbps. The IEEE ratified this standard as **802.11b**. 802.11b devices

are backwards compatible with 2.4 GHz 802.11 direct sequence devices (that operate at 1 or 2 Mbps).

Also in 1999, the IEEE modified the 802.11 standard to support devices operating in the 5 GHz frequency band. This standard is referred to as **802.11a**. 802.11a devices are not backward compatible with 2.4 GHz 802.11 or 802.11b devices. 802.11a radios use a radio technology called Orthogonal Frequency Division Multiplexing (OFDM) to achieve data rates of up to 54 Mbps. In addition, ORiNOCO Wireless Clients that support the 802.11a standard also support Proxim's 2X™ Turbo mode. This mode is not part of the IEEE 802.11a standard but delivers data rates of up to 108 Mbps. Note that 2X Turbo mode is only available in the FCC regulatory domain (e.g., the United States)

When officially ratified in 2003, the **802.11g** standard will deliver the same 54 Mbps maximum data rate as 802.11a, yet it offers an additional and compelling advantage—backward compatibility with 802.11b equipment. This means that 802.11b client cards will work with 802.11g access points, and 802.11g client cards will work with 802.11b access points. Note that 802.11b products cannot be upgraded to support 802.11g since the 802.11g radios use a different chipset than 802.11b devices. However, 802.11g products and 802.11b products can work in the same network. Because 802.11g and 802.11b operate in the same unlicensed band, the two standards share the same three channels, which can limit wireless capacity and scalability.

Since 802.11a, 802.11b, 802.11d and 802.11g are based on the same common standard (IEEE 802.11), 802.11a, 802.11b and 802.11g devices have many of the same parameters. This user guide uses the generic term **802.11** to refer to parameters that apply to 802.11a, 802.11b and 802.11g devices.

An 802.11a device and an 11b/g device cannot communicate with each other. Also, a device in 802.11a 2X mode and a device operating in 802.11a mode (2X mode disabled) cannot communicate.

In addition to the three standards above, the IEEE 802.11 committee has also ratified the **802.11d** standard. When 802.11 first became available, only a handful of regulatory domains (e.g., U.S., Europe, and Japan) had rules in place for the operation of 802.11 wireless LANs. In order to support a widespread adoption of 802.11, the IEEE committee created the 802.11d task group to define an operational procedure that satisfies the regulatory requirements within all countries. This is especially important for operation in the 5GHz bands because the use of these frequencies differ widely from one country to another.

802.11d is a "regulatory domain update." The idea behind 802.11d is that the wireless Access Point (AP) can tell a client in what country it is located and what channels and transmit power levels are legal in that country. In some countries, wireless LANs in the 802.11-defined bands are not legal. With 802.11d, in theory, an Access Point could describe the "legal" configuration to wireless clients so that wireless LANs could be deployed in those countries.

The ORiNOCO Wireless Client supports the 802.11d standard. Note that this standard does not have a direct visible impact on end user operation: it primarily applies to companies developing 802.11 products.

1.5.2 Interoperability

The Wi-Fi standard certified at 5 GHz ensures the wireless interoperability with other Wi-Fi

(802.11a/g) certified devices.

The Wi-Fi standard certified at 2.4 GHz ensure the wireless interoperability with other Wi-Fi (802.11b) certified devices.

1.5.3 Security

The ORiNOCO™ Wireless Client supports the following security standards (features vary based on model):

- Cisco Client Extension compatibility (including LEAP)
- Wired Equivalent Privacy (WEP) encryption using 64 bit, 128 bit or 152 bit encryption
- TKIP Encryption support
- AES-CCM Encryption support
- Support for Windows 802.1x supplicants

2

Chapter 2 Installation

This chapter describes how to install an ORiNOCO Wireless Client and software in a computer running Windows XP or Windows 2000.

Note for Windows XP Users: The Windows XP operating system has a built-in feature known as "Wireless Zero Configuration" which has the capability to configure and control the ORiNOCO Wireless Client (see Configuring Your Wireless Networking Settings with Windows XP). Installing the Wireless LAN Client utility will disable this Windows XP feature.

2.1 Pre-installation Considerations

Review the following pre-installation consideration before installing an ORiNOCO Wireless Client.

The ORiNOCO Wireless Client must comply with the EMI requirement of the followings:

Emissions

802.11a

- North America — FCC Part 15b, Part 15e
- Europe — EN 300 836(Hiplan1), 839(hiplan2), EMC301 489-1, EN301 489-17
- Japan — TELEC STD-72

802.11g

- North America — FCC Part 15b, Part 15c
- Europe — EN 301 893
- Japan — TELEC STD –33, STD- 66

Safety Requirements

- North America — UL 60950 Ver.3 for USA, CSA C22.2 for Canada
- Europe — EN 60950

ESD Requirement

ORiNOCO Wireless Client must withstand 15KV test voltage of electrostatic discharge under operational conditions.

2.2 Proxim Client Utility Installation

The instructions below describe how to install an ORiNOCO™ Wireless Client by running the ORiNOCO Installation program before inserting the card into the computer. It is recommended that you insert the card after the setup and configuration procedure is completed.

Follow these steps to install an ORiNOCO™ Wireless Client in a Windows 2000 or Windows XP computer.

1. Turn on the computer and logon to Windows, if applicable.
2. Insert the ORiNOCO Installation CD into the computer's CD-ROM drive.
3. If the ORiNOCO Installation program does not launch automatically, run **SETUP.EXE** from the ORiNOCO Installation CD to launch the program.
4. System finds the InstallShield Wizard and is preparing for the setup.

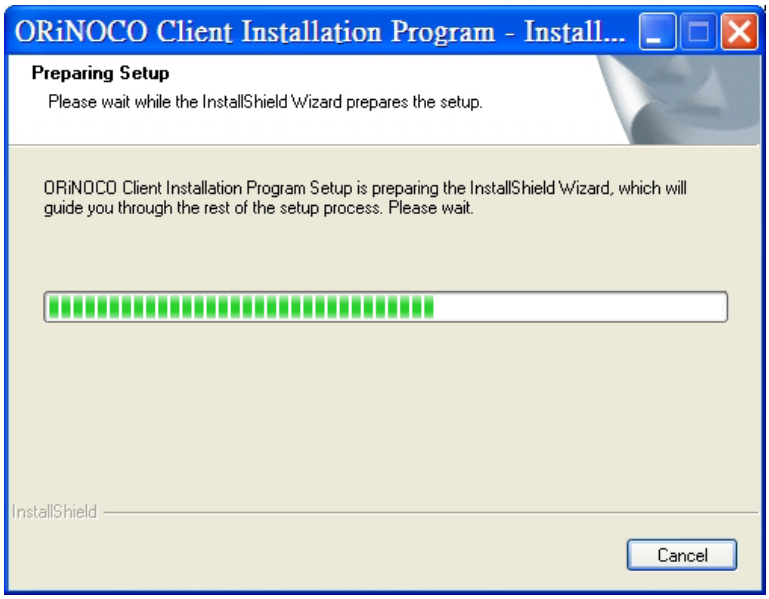

ORiNOCO Client Installation Program - Install...
Preparing Setup
Please wait while the InstallShield Wizard prepares the setup.
ORiNOCO Client Installation Program Setup is preparing the InstallShield Wizard, which will guide you through the rest of the setup process. Please wait.
InstallShield
Cancel

Figure 2-1 Preparing for InstallShield Wizard Setup

5. Click **Next** on the Software Setup ***Welcome*** dialog box.

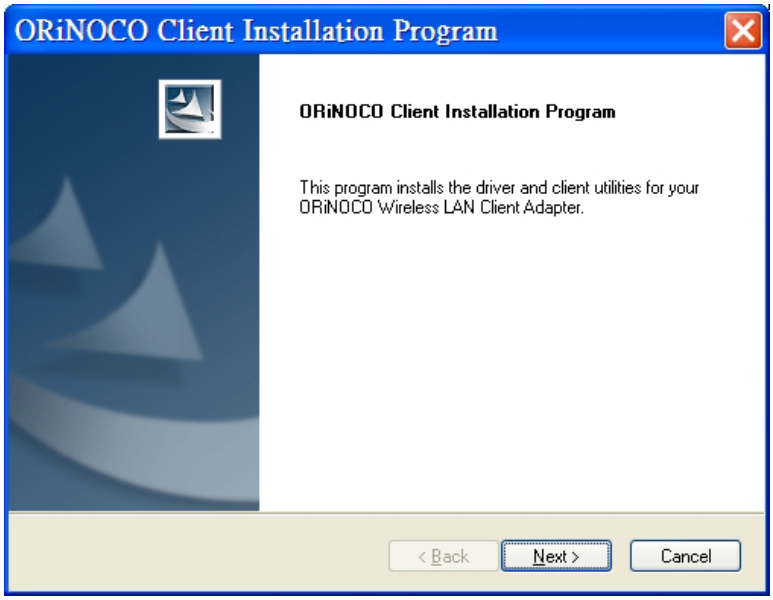

ORiNOCO Client Installation Program
ORiNOCO Client Installation Program
This program installs the driver and client utilities for your ORiNOCO Wireless LAN Client Adapter.
< Back
Next >
Cancel

Figure 2-2 Setup "Welcome" Dialog Box

6. The License Agreement screen appears. Click **Yes** to continue.

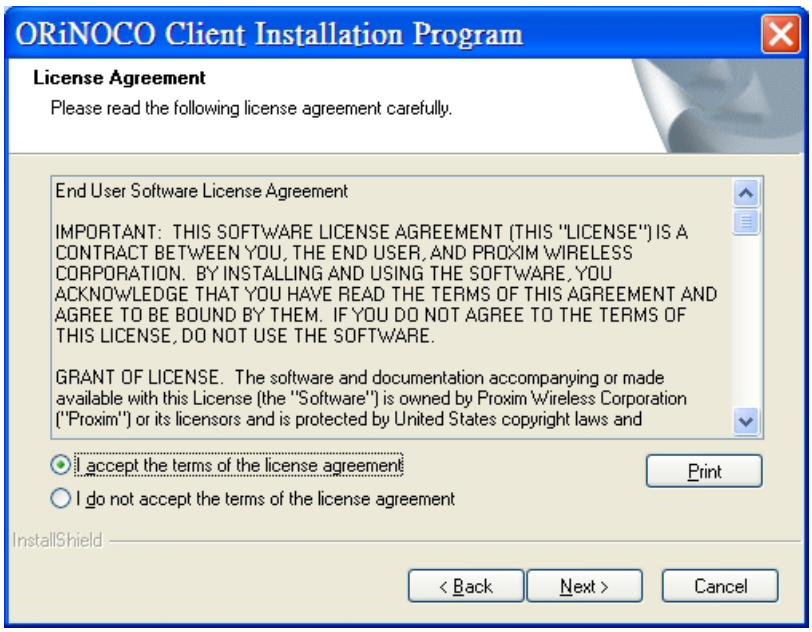

ORiNOCO Client Installation Program
License Agreement
Please read the following license agreement carefully.
End User Software License Agreement
IMPORTANT: THIS SOFTWARE LICENSE AGREEMENT (THIS "LICENSE") IS A CONTRACT BETWEEN YOU, THE END USER, AND PROXIM WIRELESS CORPORATION. BY INSTALLING AND USING THE SOFTWARE, YOU ACKNOWLEDGE THAT YOU HAVE READ THE TERMS OF THIS AGREEMENT AND AGREE TO BE BOUND BY THEM. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, DO NOT USE THE SOFTWARE.
GRANT OF LICENSE. The software and documentation accompanying or made available with this License (the "Software") is owned by Proxim Wireless Corporation ("Proxim") or its licensors and is protected by United States copyright laws and
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

Figure 2-3 License Agreement

7. Choose a destination location for the ORiNOCO Wireless Client installation files. You may use the default path or click **Browse** to specify a different location. After you are done, click the **Next** button.

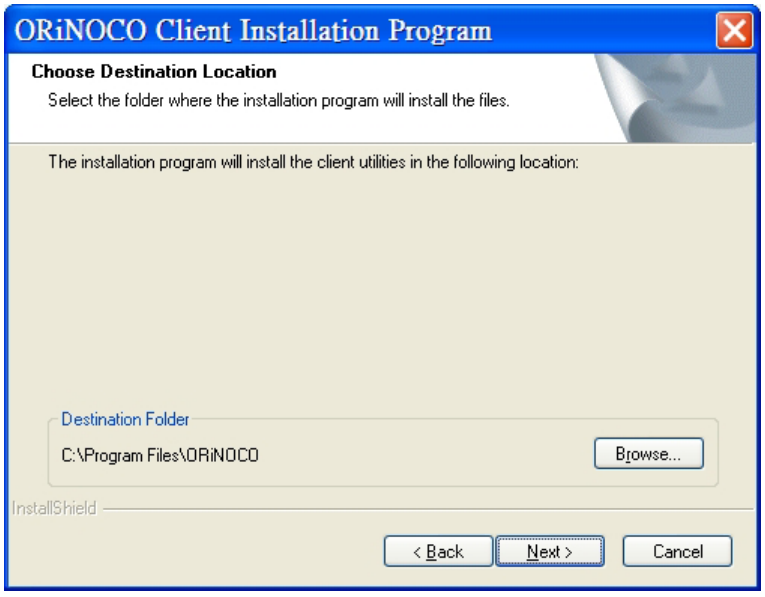

ORiNOCO Client Installation Program
Choose Destination Location
Select the folder where the installation program will install the files.
The installation program will install the client utilities in the following location:
Destination Folder
C:\Program Files\ORiNOCO
Browse...
InstallShield
< Back
Next >
Cancel

Figure 2-4 Choose Destination Folder for the Installation Program

8. Be patient while the software is installed on your computer.

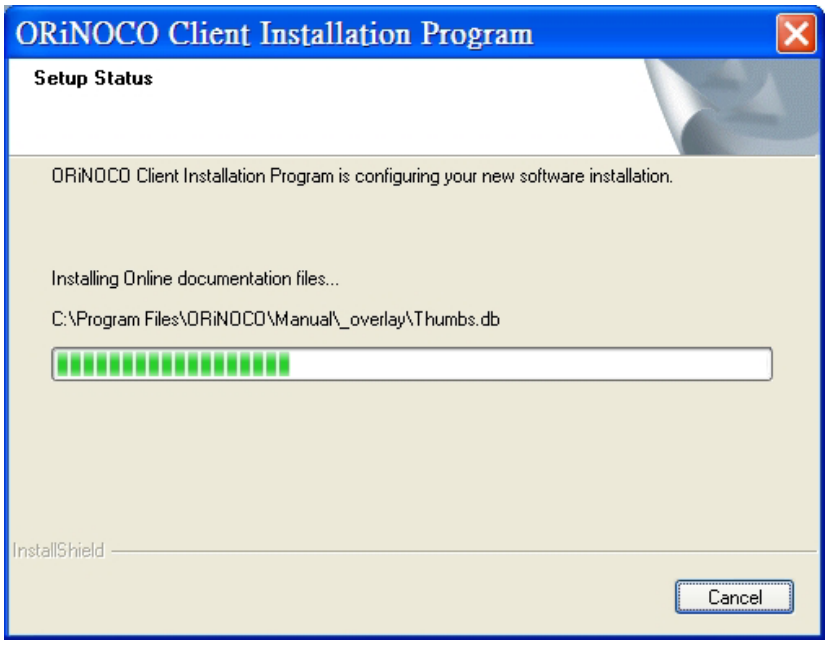


Figure 2-5 Software Setup in Process

9. 9.Click **Finish** to close the Software Setup wizard when prompted.

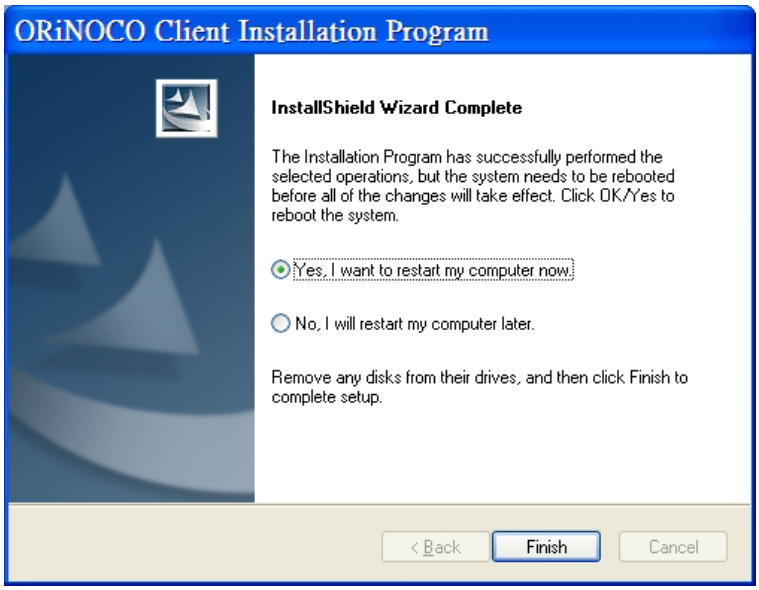

ORiNOCO Client Installation Program
InstallShield Wizard Complete
The Installation Program has successfully performed the selected operations, but the system needs to be rebooted before all of the changes will take effect. Click OK/Yes to reboot the system.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

Figure 2-6 Installation Completed

The Proxim Client Utility will be automatically loaded each time your computer starts. To access the utility, click the Proxim Client Utility icon in the Windows Taskbar.

10. Insert the ORiNOCO™ Wireless Client into your laptop's PC Card slot.

Figure 2-7 Insert the ORiNOCO Wireless Client into the Laptop

11. If prompted, follow any on-screen instructions to complete the installation.

12. The Wireless Client should now be successfully installed.

- If you have an Access Point on the network with no security enabled, the Wireless Client should connect automatically.
- If you have an Access Point on the network with security enabled, double-click the Proxim icon to launch the Proxim Client Utility; use this utility to create profiles, configure the card, and enable security.
- If you do not have an Access Point, use the Proxim Client Utility to set the card to Peer-to-Peer Ad Hoc mode.

ORiNOCO Wireless Clients sold in Europe do not support Peer-to-Peer Group when in 802.11a mode.

For more information on Peer-to-Peer Groups and Access Point networks, see Wireless Topologies.

3

Chapter 3 Wireless Topologies

3.1 Introduction

ORiNOCO wireless products look and operate similar to Ethernet products. The only difference is that a radio replaces the wire between communicating devices. This means that all of your existing applications that operate over Ethernet will work with the ORiNOCO™ Wireless Client without any special wireless networking software.

A wireless LAN can be configured for two different modes of operation. While each method has its advantages, one of them may be better suited for your needs. Review the following configurations to determine which mode is best for you.

3.2 Peer-to-Peer Group

A Peer-to-Peer group (also known as an **Ad-Hoc** network) is the simplest to deploy and is ideal for small offices. Peer-to-Peer Group can be comprised of two or more wireless client configured to communicate with one another. Peer-to-Peer Group clients communicate directly with each other without using an access point (AP). As a user on this type of network, you are able to quickly build up a wireless network in order to share files with other employees, print to a shared office printer, and access the Internet through a single shared connection.

Ad-hoc networking is cost effective, because no other devices components are needed (such as access points, hubs or routers) in order to setup a network. However, with Ad-Hoc networking, your computer is only able to communicate with other nearby wireless clients.

By using the off-the-shelf peer-to-peer network operating systems, each computer can dynamically connect and reconnect to the others with no additional configuration, as illustrated in

Figure 3-1 in next page.

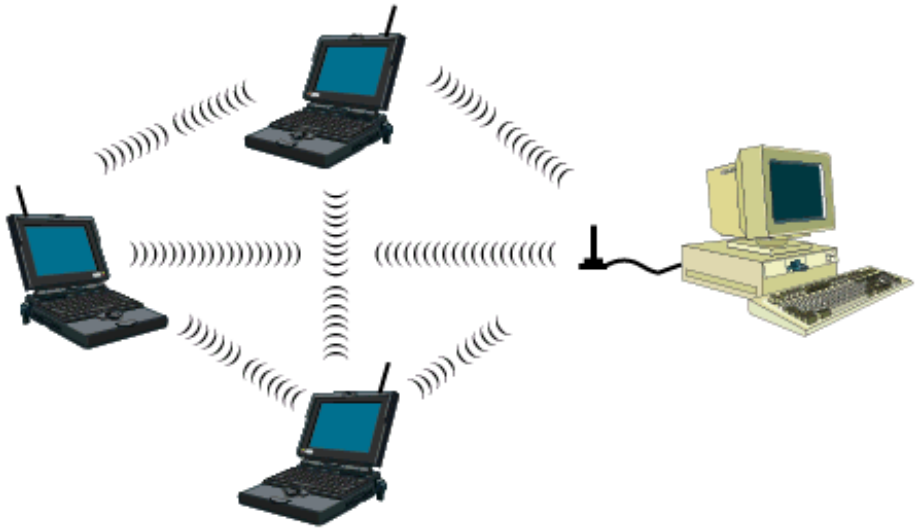


Figure 3-1 Peer-to-Peer Group

The ORiNOCO™ Wireless Client can communicate with an 802.11a, 802.11a 2X Turbo, 802.11b or 802.11g Peer-to-Peer Group (but it can not dynamically switch between the two). Therefore, you must manually configure the card to use one specific radio mode.

3.3 Access Point Infrastructure

Many companies have an existing Ethernet or wired LAN infrastructure and want to be able to extend that capability to wireless nodes. This is accomplished by installing one or more Access Points on the Ethernet network. Access Points are devices that communicate with both the Ethernet network and the wireless network.

An Access Point network is also referred to as an **Infrastructure** network. The key difference between an Infrastructure network and an Ad-Hoc network is the addition of one extra element—the Access Point. The Access Point serves as the focal point for all data traffic on your wireless network, optimally managing all wireless data transactions.

Additionally, the wireless Infrastructure can provide access to an existing wired LAN. This link allows computers on the wireless LAN to access the other wired LAN's resources and tools, including Internet access, email delivery, file transfer, and printer sharing.

You can use the ORiNOCO™ Wireless Client to communicate with 802.11a Access Points,

802.11g Access Points, 802.11b Access Points, or a combination of Access Point types. The card is compatible with 802.11a, 802.11g, or 802.11b Access Points from any vendor, including Proxim's ORiNOCO Access Point products.

3.3.1 Connecting to a Single AP

Figure 3-2 depicts an ORiNOCO network that uses a single Access Point (AP); in this example, the Access Point is an ORiNOCO AP- 2000 (with an ORiNOCO 802.11g card installed)

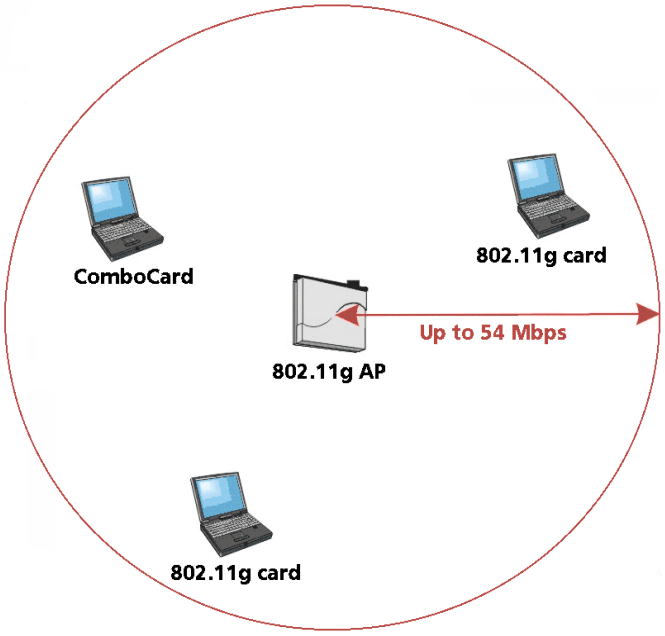


Figure 3-2 Communicating with a Single 802.11g Access Point

3.3.2 Roaming Between Multiple APs

For larger environments, the ORiNOCO™ Wireless Client may roam from one Access Point to another while maintaining the same network connection. The Access Points establish coverage areas or cells similar in concept to those of a cellular phone network. The card will connect to any Access Point that is within range.

The ORiNOCO™ Wireless Client supports roaming between APs of the same type (for example, from one 802.11a AP to another) or roaming between APs of different types (for example, from an 802.11a AP to an 802.11g AP). Figure 3-3 illustrates roaming between APs of the same radio

type.

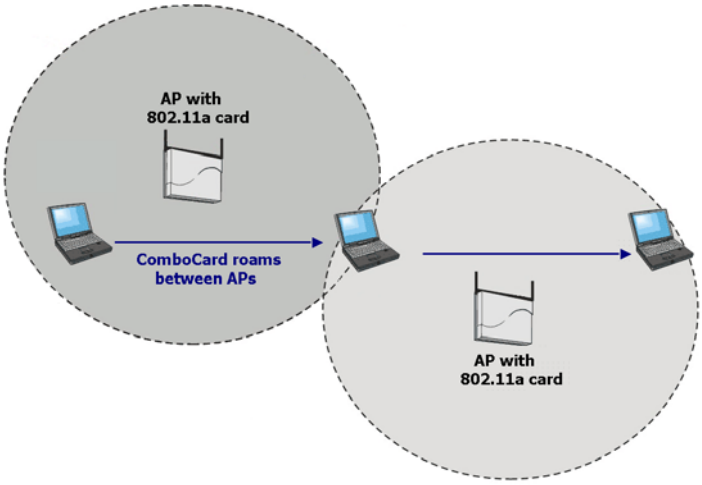


Figure 3-3 Roaming Between APs of the Same Radio Type

Figure 3-4 illustrates roaming between APs of different radio types:

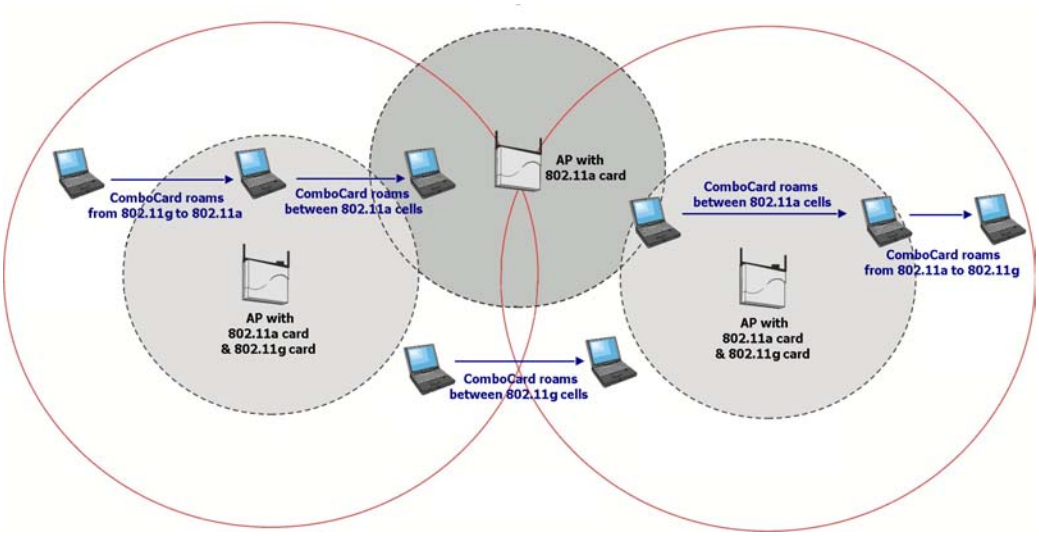


Figure 3-4 Roaming Between APs of Different Radio Types

In either case, each Access Point within a roaming network must have a unique, independent Channel, but all must have the same Network Name and security settings.

Mobile clients equipped with an ORiNOCO™ Wireless Client have **Network Type** set to "Access Point" and have the same **Network Name** and security settings as the Access Points. Alternatively, the mobile client's **Network Name** may be "any"; this setting lets the client associate with any available Access Point, regardless of the Access Point's **Network Name** (this

assumes that the AP is not a closed system).

As the mobile client seamlessly switches from cell to cell, its network connectivity is preserved. The user can move freely between the Access Points in the network. When the roaming client leaves the transmission range of one Access Point, the card automatically detects the other Access Point(s) in the same vicinity to continue the network connection.

3.3.3 Guidelines for Roaming

- An ORiNOCO™ Wireless Client can roam between 802.11a Access Points, 802.11g Access Points and 802.11b Access Points.
- All 802.11a, 802.11b and 802.11g Access Points that a client will roam between must have the same Network Name. Depending on the Wireless Mode selection, a user can roam among 802.11a, 802.11a 2X Turbo, 802.11g and 802.11b Access Points.
- All workstations with ORiNOCO Wireless Clients installed must use either a Network Name of "any" or the same Network Name as the Access Points that they will roam between (this assumes that the AP is not a closed system; see "Network Name" for more information).
- All Access Points and ORiNOCO Wireless Clients must have the same security settings to communicate.
- The Access Points' cells must overlap to ensure that there are no gaps in coverage and to ensure that the roaming client will always have a connection available.
- Access Points installed in the same vicinity that use the same frequency band (2.4 or 5 GHz) should each use a unique, independent Channel to avoid potential interference.
- Access Points that use the same Channel should be installed as far away from each other as possible to reduce potential interference.

4

Chapter 4 Proxim Client Utility Configuration

The following sections describe the Proxim Client Utility (PCU). The PCU provides quick access and friendly interface to configure the Wireless LAN settings. If you are using Windows XP and have not installed the Proxim Client Utility, Configuring Your Wireless Networking Settings with Windows XP contains information on how to configure your ORiNOCO Wireless Client using Windows XP Zero Configuration.

4.1 Proxim Client Utility icon

The Proxim Client Utility icon will appear in the Windows Taskbar (also known as the System Tray) each time your computer is restarted. Double-click the PCU icon to launch the utility.

Figure 4-1 Proxim Utility Icon

The Proxim Client Utility icon will display the current status of the wireless connection. A number appears in the upper left portion of the icon that indicates the radio's current operating frequency (2.4 GHz or 5 GHz). When the radio is in a "no link" state, the frequency band will toggle between 2.4 GHz and 5 GHz while it is scanning through those frequencies. The following are different status displayed by the icon.

- "Radio Disabled" indicates that the ORiNOCO Wireless Client has been disabled through either Hardware or Software.
- Yellow bars indicate that the signal strength is weak and the wireless connection is at the

limit of its range.

- Green bars indicate good or excellent signal strength.

See Figure 4-2 for the different status of the Proxim Client Utility icon.

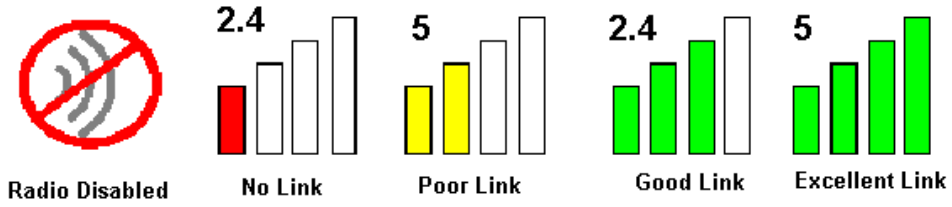


Figure 4-2 Different Status of Proxim Client Utility Icon

4.2 Current Status Tab

The current status tab, shown in Figure 4-3, displays the following information about your wireless connection.

- **Profile Name** – The current name of the selected configuration profile.
- **Link Status** – Indicates whether the card is connected or disconnected to an Access Point or other wireless client.
- **Wireless Mode** – The current frequency and data rate that has been selected.
- **IP Address** –The current IP address of the ORiNOCO Wireless Client.
- **Network Type** – The current type of wireless network: either Access Point or Ad-hoc.
- **Current Channel** – Specifies the current channel that the ORiNOCO Wireless Client is connected to or scanning on.
- **Server Based Authentication** – The authentication control that server performs.
- **Data Encryption** – Encrypt the outgoing package for safety reason.
- **Signal Strength** – Indicate the signal strength. The status includes no link, poor, good and excellent.

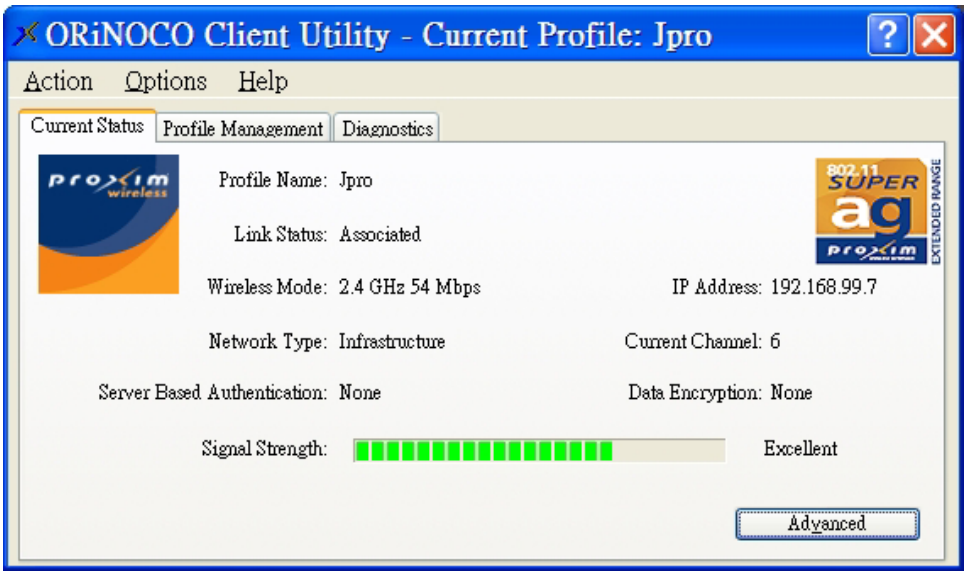


Figure 4-3 Current Status Tab Displays Current Wireless Connection

The Advanced button as shown in Figure 4-4 provides more detailed information regarding your wireless connection.

- **Transmit Power Level** – Provides current setting of Radio output power.
- **Network Name (SSID)** – The wireless network name (SSID) that the device is currently connected with.
- **Power Save Mode** – The type of Power Savings that is configured on the device.
- **Frequency** – The current frequency that the Wireless device is connected or scanning on.
- **Transmit Rate** – The transmit rate (Mbps) for the current connection for the wireless driver.
- **Receive Rate** – The receive rate (Mbps) for the current connection for the driver.

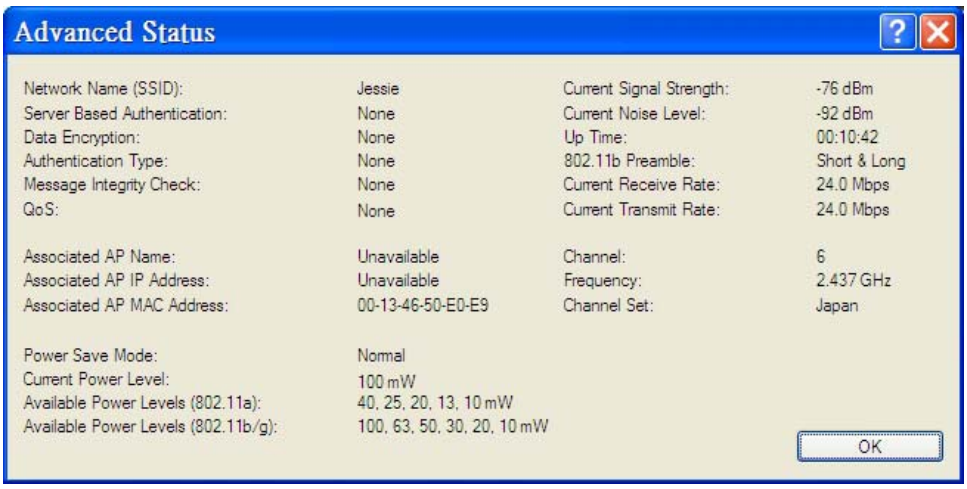

Advanced Status
Network Name (SSID): Jessie
Server Based Authentication: None
Data Encryption: None
Authentication Type: None
Message Integrity Check: None
QoS: None
Current Signal Strength: -76 dBm
Current Noise Level: -92 dBm
Up Time: 00:10:42
802.11b Preamble: Short & Long
Current Receive Rate: 24.0 Mbps
Current Transmit Rate: 24.0 Mbps
Associated AP Name: Unavailable
Associated AP IP Address: Unavailable
Associated AP MAC Address: 00-13-46-50-E0-E9
Channel: 6
Frequency: 2.437 GHz
Channel Set: Japan
Power Save Mode: Normal
Current Power Level: 100 mW
Available Power Levels (802.11a): 40, 25, 20, 13, 10 mW
Available Power Levels (802.11b/g): 100, 63, 50, 30, 20, 10 mW
OK

Figure 4-4 Advanced Status of Current Wireless Connection

4.3 Profile Management

The **Profile Management** tab allows the user to define multiple configuration profiles. Each profile can be configured to match the appropriate settings of a unique wireless network.

The ***Profile*** box lists all the configured profiles. If you want to add a new profile, click ***New*** button on the right, and fill in the basic settings (SSID, Network Type, Security Mode) of the new profile. You can modify, remove, or add new profiles in this section.

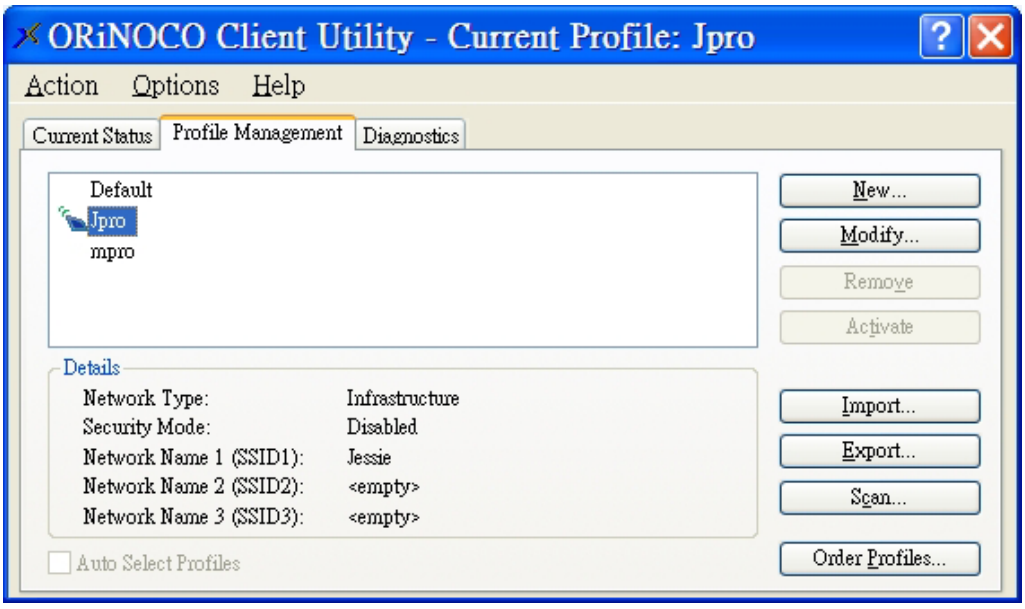


Figure 4-5 Profile Management Screen Displays Basic Settings

Click Scan on the Profile Management window to check the available networks. It allows

the user to view a list of all available wireless networks that are within range of the ORiNOCO Wireless Client. Each wireless network entry displays the network's SSID, encryption settings, signal strength level, Channel and Wireless Mode. Click the ***Refresh*** button to see the current connected profiles. Click ***OK*** to go back to the Profile Management window.

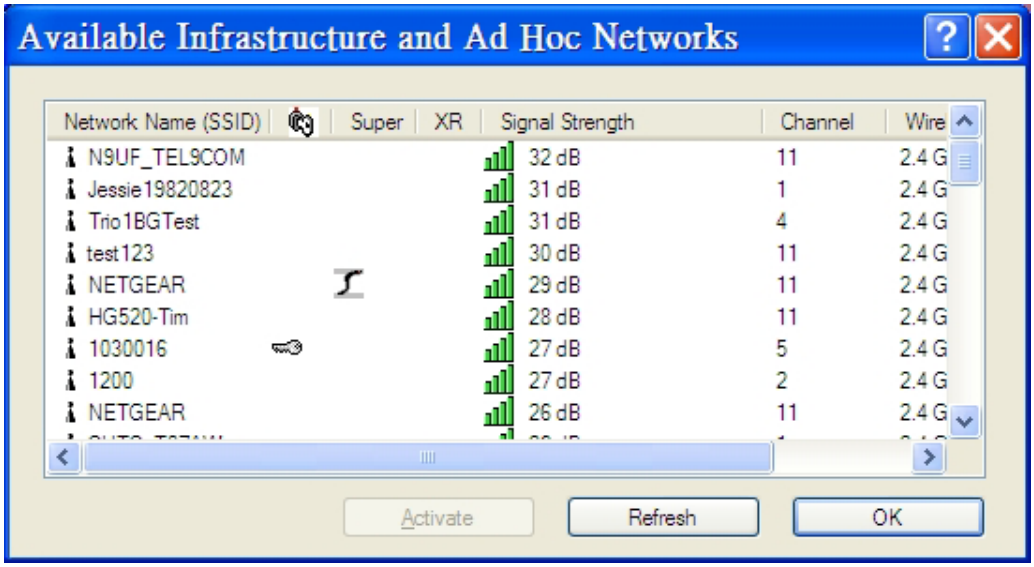


Figure 4-6 Available Networks

4.3.1 Create or Modify a Profile

1. From the **Profile Management** tab, shown in Figure 4-5, click the **New** or **Modify** button.
2. The ***Network Configuration Settings*** dialog box will appear, as shown in Figure 4-7.
3. In the ***Profile Name*** box, enter a unique name that describes the profile or the wireless network you want the card to connect to.
4. In the ***SSID*** boxes enter the SSID that matches the SSID of the wireless network you want the card to connect to. There are three SSID selections (SSID1, SSID2, SSID3) available; this feature allows you to configure a single profile to match up to 3 different SSIDs.

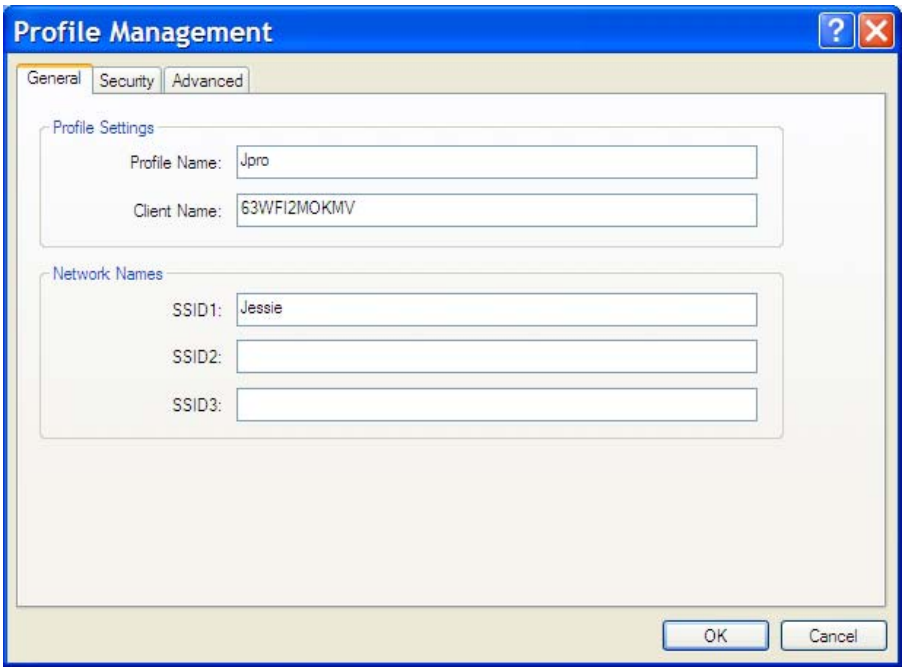
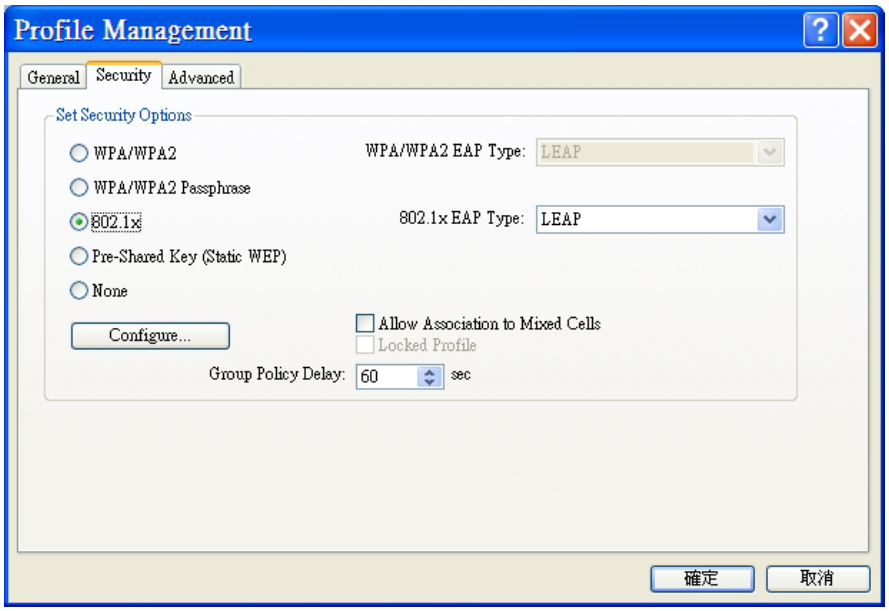


Figure 4-7 Network Configuration Settings Dialog Box

5. Select the **Security** tab to manage the security settings associated with this profile.



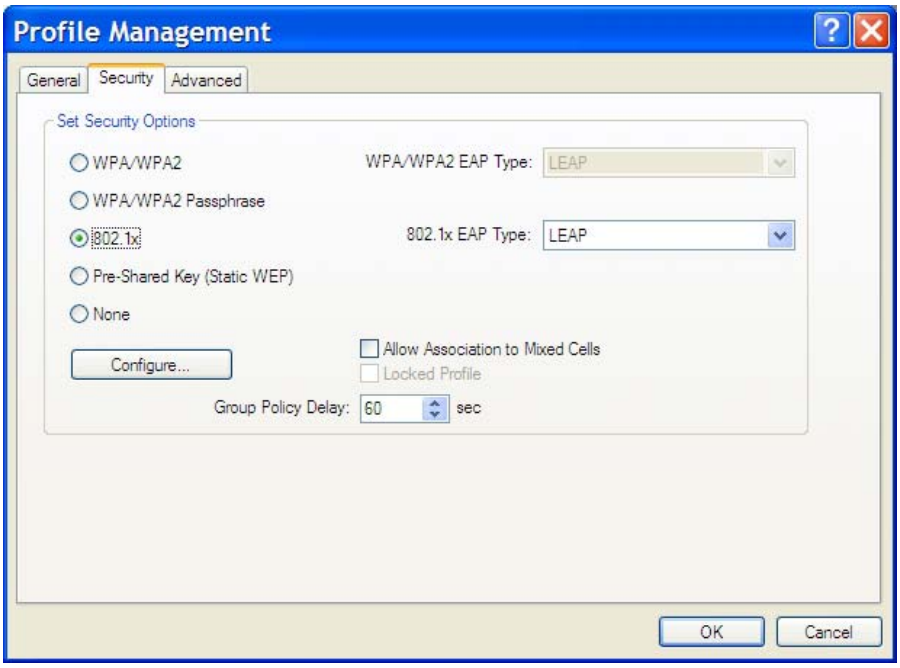


Figure 4-8 Manage Security Settings to Wireless Network

6. Choose the security setting that applies to the wireless network you want the card to connect to. If you select **Pre-Shared Keys** or **LEAP**, a button to the right of the selection becomes available so you can configure additional settings required by the selected security mode.

7. Click **Advanced** if you want to configure the advanced parameters (see Advanced Settings in Profile Management for details).

8. Click **OK** to save the profile.

4.3.2 Security Settings in Profile Management

The **Security** tab allows you to configure the ORiNOCO Wireless Client to match the security settings of the Wireless LAN network. Refer to Figure 4-9 for an example.

Select the appropriate security mode:

- **WPA/WPA2 –** WPA (Wi-Fi Protected Access) provides powerful wireless security protection. It improves data encryption through the temporal key integrity protocol (TKIP) and advanced encryption standard (AES). WPA must be run on the RADIUS server. If you select this item, the drop-down menu next to it will become editable and you can choose according to the profile.

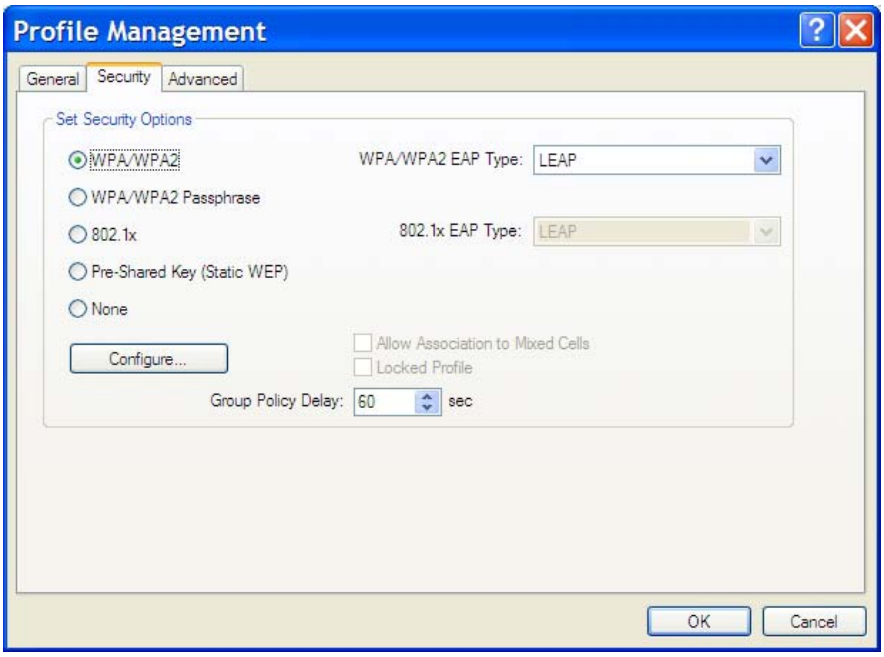


Figure 4-9 Security -- WPA/WPA2

Windows will prompt you to LEAP Setting once you check the WPA/WPA2 button. Select the settings based on your need. Authentication Timeout Value means how long the system will request authentication again if you are not using the wireless network.

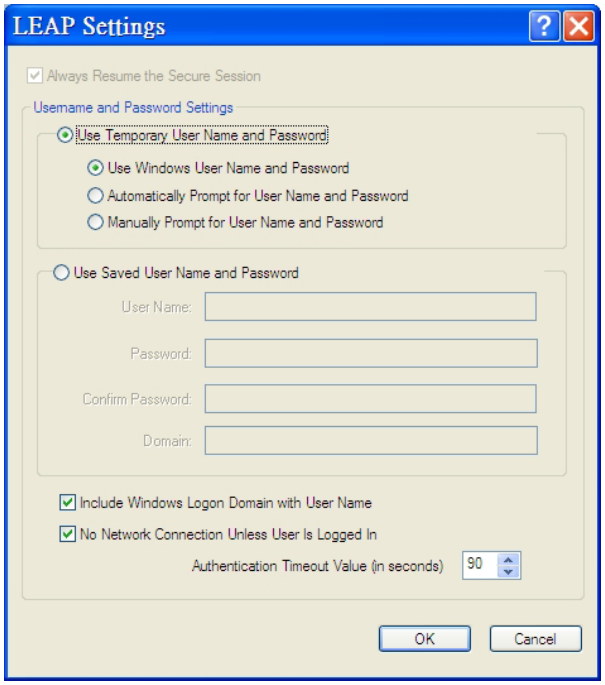

LEAP Settings
Always Resume the Secure Session
Username and Password Settings
Use Temporary User Name and Password
Use Windows User Name and Password
Automatically Prompt for User Name and Password
Manually Prompt for User Name and Password
Use Saved User Name and Password
User Name:
Password:
Confirm Password:
Domain:
Include Windows Logon Domain with User Name
No Network Connection Unless User Is Logged In
Authentication Timeout Value (in seconds)
90
OK
Cancel

Figure 4-10 Security -- LEAP

- WPA/WPA2 Passphrase – Obtain the passphrase for the AP in an infrastructure network or the passphrase for other clients in an ad hoc network. WPA/WPA2 passphrases must contain between 8 and 63 ASCII text characters or 64 hexadecimal characters. Your client adapter WPA/WPA2 passphrase must match the passphrase of the AP with which you plan to communicate.

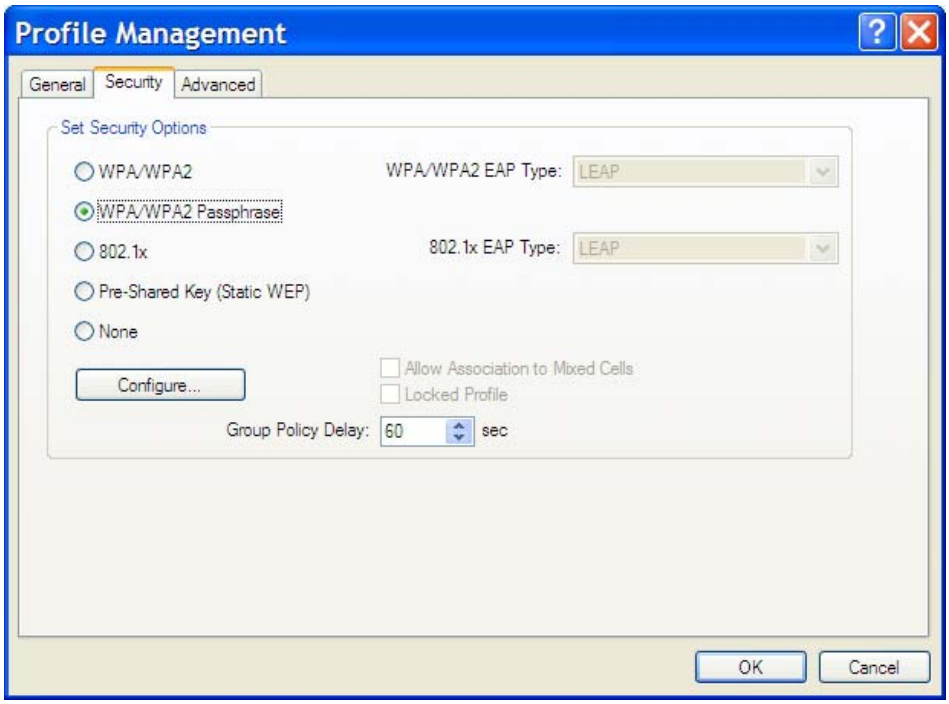


Figure 4-11 Security – WPA/WPA2 Passphrase

- **802.1x Keys** – This security mode allows for dynamic switching of encryption keys using 802.1x authentication. You can select from EAP-TLS, PEAP, PEAP (EAP-MSCHAP V2), LEAP, and EAP-FAST. This mode should only be used if your Wireless LAN requires 802.1x authentication. If you select this item, the drop-down menu next to it will become editable and you can choose according to the profile.
- **Pre-Shared Keys** – This mode is commonly referred to as **WEP encryption**, and allows for setting of all four WEP keys. The pre-shared key selection also allows for setting of a unique key, which is used with higher forms of encryption such as **AES** (Advanced Encryption Standard).
- **None** – Use this mode when there is no security authentication or encryption is currently enabled on your Wireless LAN network.

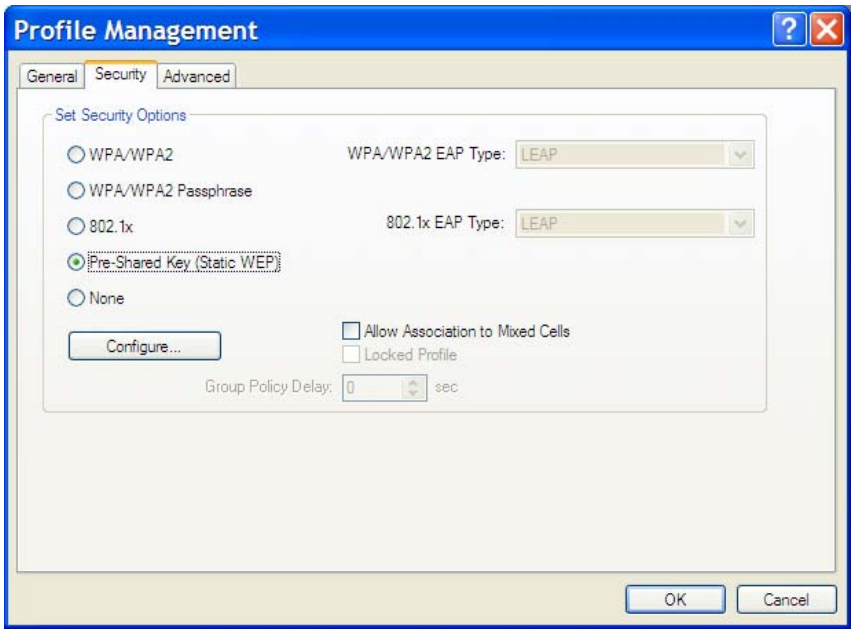


Figure 4-11 Security Setting on Profile Management Icon

Setting Pre-Shared Keys

You can define the Pre-Shared keys (Figure 4-11) by using the ***Define Pre-Shared Keys*** box.

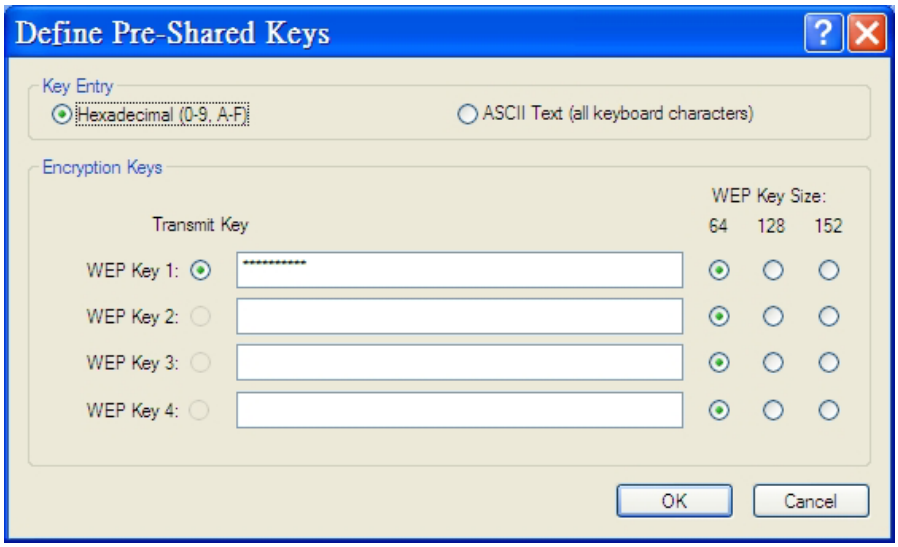


Figure 4-12 Defined Pre-Shared Keys Icon

Key Entry Method – Determines the entry method for an encryption key:

- Hexadecimal (0-9, A-F)
- ASCII text (any keyboard characters, A-Z, 0-9).

Per User Key – Defines the unique encryption key for network configuration security. The Per

User key is used with many authentication mechanism and encryption.

Shared Keys – Determines a set of shared encryption keys (First, Second, Third, Fourth) used for wireless encryption and security. At least one Shared Key field must be populated to enable security using a shared key. If more then one key is defined then click the appropriate radio button to select a key as the default encryption key.

Key Length – The options for Key Length are

- 64 bit encryption (10 digits in HEX mode)
- 128 bit encryption (26 digits in HEX mode)
- 152 bit encryption (32 digits in HEX mode)

The number of characters that may be entered in the encryption key field will be automatically determined by the Key length setting.

4.3.3 Advanced Settings in Profile Management

The **Advanced** tab provide more complex wireless settings and these settings should only be modified if there is a specific requirement on your wireless network.

1. **Transmit Power Level** - allows the user to modify the power output of the radio. User may set the transmit power to the following levels. Maximum power setting will vary according to individual country regulations.
2. **Power Save Mode** - allows the user to minimize power utilized by the ORiNOCO™ Wireless Client. Note that "Setting Power Save Mode" to enabled (Normal or Maximum) may cause the user to experience an extended connection delay of up to one minute.
3. **Network Type** - allows the user to configure the ORiNOCO™ Wireless Client as either a Peer-to-Peer Group (Ad-hoc) or Access Point type network
4. **802.11b Preamble** - configures the preamble for 802.11b radio packets so that they match up with the specified wireless network.
5. **Wireless Mode** –The **Wireless Mode** settings allow the user to specify which wireless frequency and data rate the wireless network is operating at. If all selections are chosen, the ORiNOCO Wireless Client will automatically search for all frequencies and data rates for wireless networks that match up to the profile settings.
6. **Wireless Mode when Starting Ad Hoc Network** -- **ad-hoc** mode is a method for wireless devices to directly communicate with each other. Operating in ad-hoc mode allows all

wireless devices within range of each other to discover and communicate in peer-to-peer fashion without involving central access points. This setting allows the user to determine the type of ad-hoc network to be started. Note that this setting will only take effect if there are no other ad-hoc networks with the same SSID currently operating within range. If an existing ad-hoc networks with the same SSID is within range, then the ORiNOCO Wireless Client will connect using the frequency and data rate provided by the existing ad-hoc network. Wireless Clients sold in Europe do not support Ad-hoc mode in 802.11a (5 GHz 54 Mbps) or 2X Turbo (5 GHz 108 Mbps) mode.

7. **802.11 Authentication Mode** -- Define which mode is used to connect to the AP. If you select Open, AP should also use the same mode to allow the connection. Different mode selected at two sides would lead to connection failure. The option of **Auto** is good for every mode in the AP side, which means it would adopt itself the mode that AP uses and make connection.

Setting this to any other value except 100% will decrease the range of your ORiNOCO Wireless Client. However, operation at the higher power levels increases power consumption and the likelihood of interference between wireless LANs.

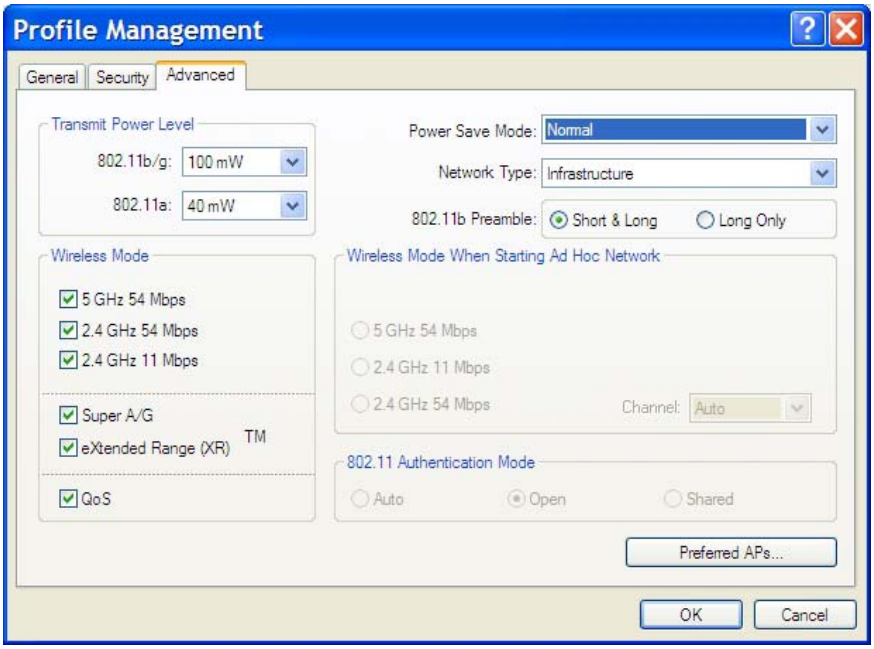


Figure 4-14 Advanced Setting Provides Complex Wireless Settings

4.4 Diagnostic Tab

The Diagnostics tab displays the current data statistics for transmit and receive packets. Advanced statistics and adapter information can be displayed by clicking the appropriate labeled buttons.

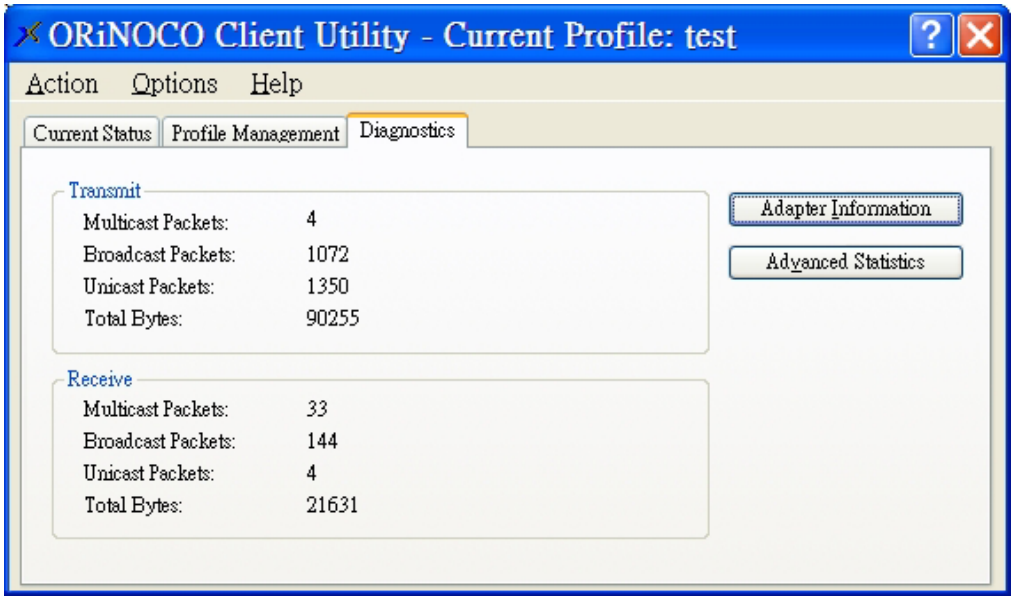


Figure 4-15 Diagnostics Information

Figure 4-16 Adapter Information

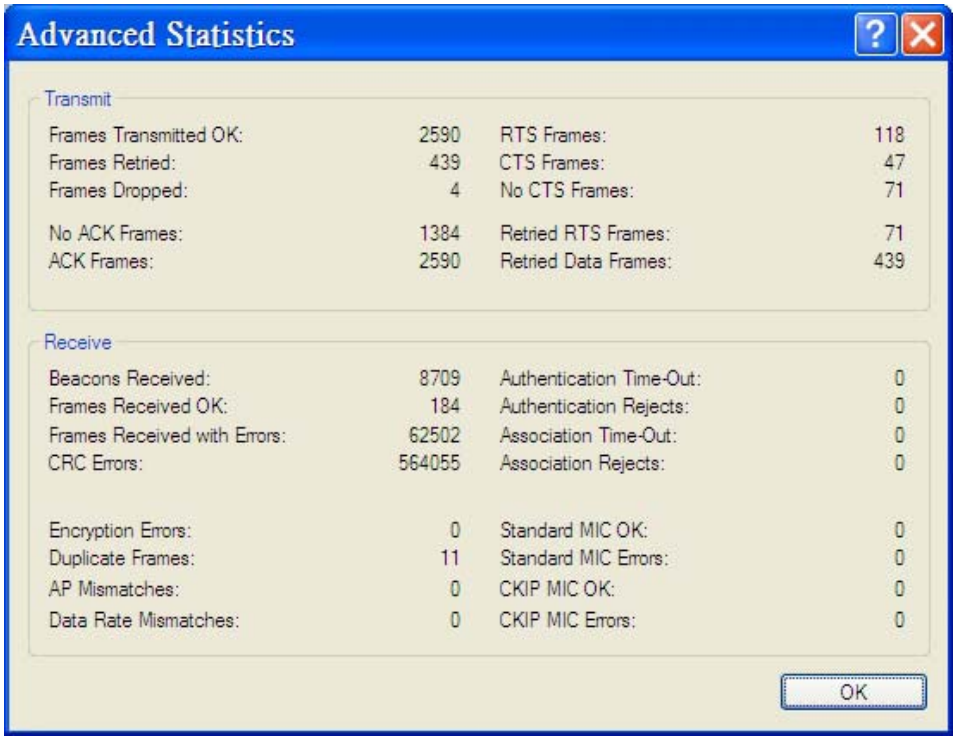


Figure 4-17 Wireless Advanced Statistics Shows Detailed Data

4.5 Action Menu

The **Action** menu enables and disables both the wireless radio and/or system tray icon.

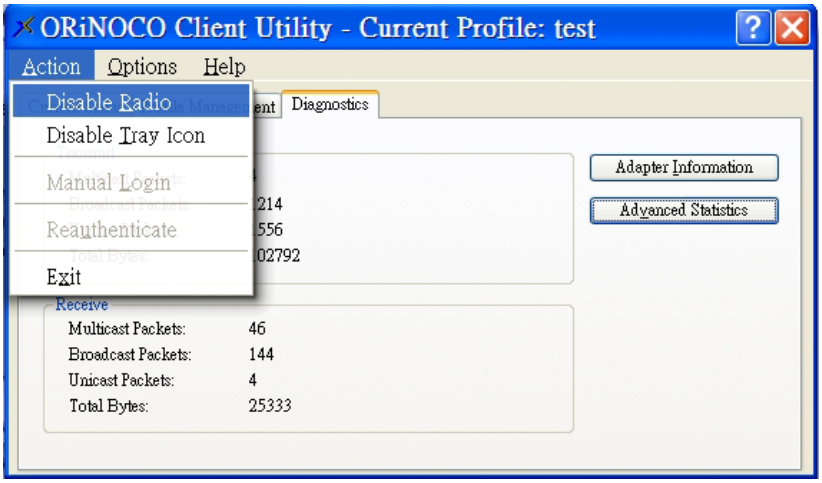


Figure 4-18 Action Menu Used to Enable and Disable Wireless Radio/System Tray

4.5.1 Enable/Disable Radio

There may be situations when the user wants to disable the ORiNOCO Wireless Client's radio so that the wireless device cannot send or receive any wireless traffic. If a user is in an environment where there are no wireless networks, the user may turn off the radio in order to minimize power consumption of the ORiNOCO Wireless Client.

In the PCU's **Action** menu, there is an **Enable Radio**/**Disable Radio** selection. The choice provided in the menu will toggle the current state of the radio.

- **Enable Radio:** The Radio is currently OFF (Disabled), and the **Enable Radio** selection will turn ON the Radio of the wireless device.
- **Disable Radio:** The Radio is currently ON (Enabled), and the **Disable Radio** selection will turn OFF the Radio of the wireless device

4.5.2 Enable/Disable Tray Icon

In the **Action** menu of the PCU, there is an **Enable Tray Icon**/**Disable Tray Icon** selection. The choice provided in the menu will toggle the current state of the System Tray Icon.

- **Disable Tray Icon:** This will remove the tray icon from your System Tray (also known as the Windows Taskbar). Take the ORiNOCO 11a/b/g ComboCard as an example, the icon appears in the System Tray again after the system is restarted or if the Proxim Client Utility is opened again from **Start** > **Programs** > **ORiNOCO 11abg ComboCard** >**ORiNOCO 11abg Client Utility**.
- **Enable Tray Icon:** This option will return the icon to the System Tray.

4.6 Configuring Your Wireless Networking Settings with Windows XP

The Windows XP operating system has a built-in feature known as "Wireless Zero Configuration" which has the capability to configure and control this Wireless LAN device. Configure your device with the steps below.

1. From the Start menu, select **Control Panel.**

2. Click **Network and Internet Connections.**

3. Click **Network Connections.**

4. Right-click the network connection associated with your ORiNOCO™ Wireless Client and select **Properties.**

5. Click the **Wireless Networks** tab.

6. Click the link **Setting Up Wireless Network Configuration**.

When the Help and Support Center window appears, you can access information regarding Wireless Network configuration. Follow the on-screen instructions to access configuration information for your adapter.

4.6.1 Advanced Wireless Settings

The ORiNOCO Wireless Client has several advanced settings which may need to be configured depending on your wireless network. It is recommended that these settings remain unchanged unless there is a specific need that requires modifying these settings.

1. From the **Start** menu, select **Control Panel**.

2. Click **Network and Internet Connections**.

3. Click **Network Connections**.

4. Right-click the connection for your ORiNOCO Wireless Client, and select **Properties**.

5. From the **General** tab, click the **Configure** button.

6. Click the **Advanced** tab.

7. Modify the wireless settings as required.

4.6.2 Help and Support Information

Configuration information and troubleshooting in Windows XP is available in Microsoft's Help and Support Center on Windows XP systems. Links to the appropriate Microsoft Web sites are also

available here.

To access this information:

1. From the **Start** menu, select **Control Panel**.
2. Click **Network and Internet Connections**.
3. Click **Network Connections**.
4. Right-click the connection for your ORiNOCO™ Wireless Client, and select **Properties**.
5. From the **General** tab, click the **Configure** button.
6. From the **General** tab, click the **Troubleshoot** button.

When the Help and Support Center window appears, you can access information regarding the Network adapter. To access configuration information for your adapter, follow the on-screen Instructions. For the network adapter to function in a wireless LAN, you may need change the settings per the requirement of network environment.

5

Chapter 5 Troubleshooting

The ORiNOCO™ Wireless Client is designed to be very easy to install and operate. However, if you experience any difficulties, use the information in this chapter to help diagnose and solve the problem.

5.1 How to Obtain Help with Your LAN Installation

If you require assistance to install your Local Area Network (LAN), Proxim can put you in touch with a reseller in your area. The reseller is an expert in the design, installation, and maintenance of LANs and will be able to examine your needs and recommend the most cost-effective solution for your LAN whether you are installing a new LAN or adding on to an existing one. For the location of the ORiNOCO reseller nearest you, contact Proxim at 1-800-229-1630 or 1-408-731-2700 and ask for the Sales Department.

5.2 Common Installation Problems

Chapter 2 Installation describes how to install an ORiNOCO™ Wireless Client in a computer running Windows 2000 or Windows XP. This section provides suggestions to resolve some of the common installation problems with an ORiNOCO™ Wireless Client.

5.2.1 Card Not Installed Properly

If Windows Networking reports that the ORiNOCO™ Wireless Client has not been properly

installed or configured after you have completed the ORiNOCO Installation program, open the Device Manager (found within the Control Panel's System icon) and locate the card's entry in the Network adapters category.

If a yellow exclamation point ("!") appears next to the card's Device Manager entry, then the card is not working properly. Follow these steps:

- Uninstall the card as described in 5.4 Uninstalling an ORiNOCO Wireless Client.
- Reinstall the card following the instructions in Chapter 2 Installation.

5.3 Configuring Networking Clients and Protocols

An ORiNOCO™ Wireless Client will bind to any existing networking components, such as Client for Microsoft Networks and the Internet Protocol (TCP/IP). Refer to the steps below that correspond to your computer's operating system to configure the card's networking components.

5.3.1 Windows XP/2000

Follow these steps to configure the card's networking clients and protocols in a Windows XP or 2000 computer:

1. Open the Control Panel's **Network and Dial-up Connections** (Windows 2000) or **Network Connections** (Windows XP) icon.
2. Scroll through the list of network connections and right-click the Local Area Connection that corresponds to the ORiNOCO™ Wireless Client.
3. Select **Properties** from the drop-down menu to view the connection's properties screen.
4. Select a client or protocol from the list of components and click **Properties** to configure its settings. For example, if you want to assign the card a static IP address, highlight **Internet Protocol (TCP/IP)** and click **Properties**.

To add a new client or protocol, click **Install...** and follow the on-screen instructions.

5.4 Uninstalling an ORiNOCO Wireless Client

Follow these steps if you need to uninstall the card:

1. Access the **Control Panel** from the **Start** menu
2. Click the **Add/Remove Programs** icon.
3. Select **ORiNOCO 802.11 Wireless Client** and click **Change/Remove** button, as shown below.

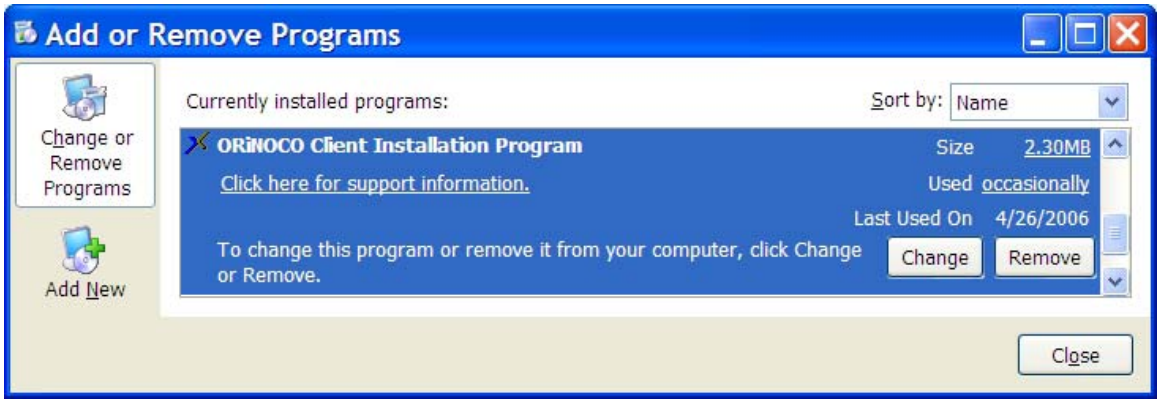


Figure 5-1 Select "Add/Remove Program" in Control Panel

4. Select **Remove** and then click the **Next** button to perform the un-installation. When prompted, click **OK** to remove the Proxim Client Utility.

Figure 5-2 Un-installation Confirmation

5. Be patient while the card is uninstalled from your computer.

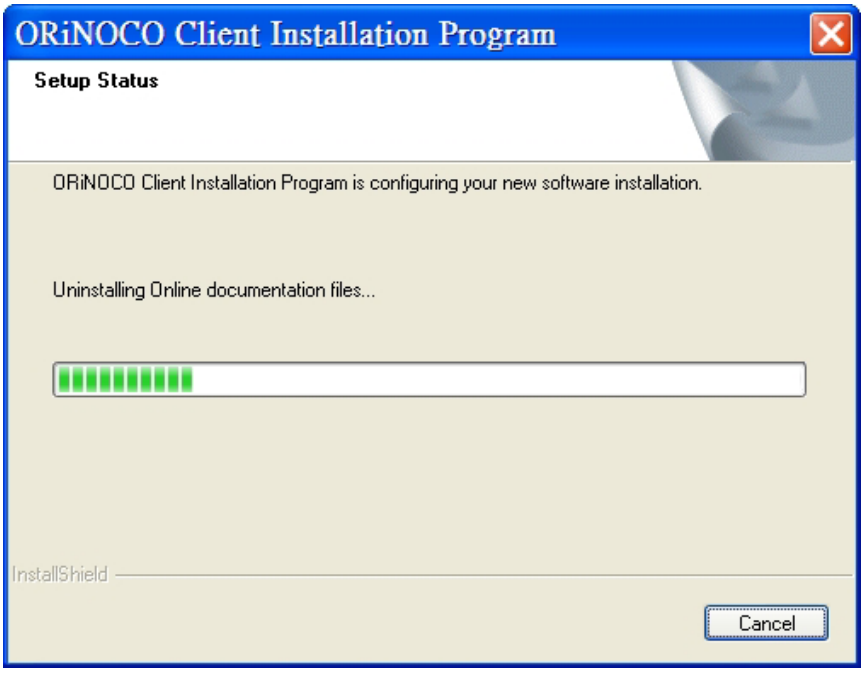


Figure 5-3 Un-installation in process

6. When prompted, click **Finish** to complete the un-Installation procedure.

5.5 Range

Every environment is unique with different obstacles, barriers, materials, etc., and, therefore, it is difficult to determine the exact range that will be achieved without testing. Radio signals may reflect off of some obstacles or be absorbed by others depending on their construction.

The IEEE 802.11 standards and the 2X Turbo mode specification support multiple data rates that correspond to different transmission techniques. For wireless devices, there is a trade-off between range and data rate. Transmission techniques that provide high data rates operate over short distances; techniques that provide slower data rates operate over greater distances. By default, the ORiNOCO™ Wireless Client automatically switches between these data rates to maintain a usable radio connection and achieve the best data rate based on the card's distance from the Access Point. Therefore, a client that is close to an Access Point will operate at a higher data rate than a client that is farther away from the Access Point.

The ORiNOCO™ Wireless Client includes two integral omni-directional antennas. Note that the coverage footprint of the card's antennas will vary depending on the laptop's design and the location of the CardBus slot in the computer. Two antennas are provided to support antenna diversity, a technique which can improve system reliability. Due to the characteristics of radio waves, it is possible that one antenna may provide better performance than a second antenna installed a short distance away.

Proper antenna placement can help improve range. Here are some guidelines:

- Try to keep the card's antennas free of obstructions (particularly metal objects) and do not place a sheet of metal (like a filing cabinet) between the antennas of two 802.11 devices.
- Use the Proxim Client Utility to evaluate the signal strength and link quality between 802.11 devices.
- Refer to the documentation that came with your Access Points for suggestions on how to locate the AP and its antennas to maximize range and performance.

5.6 LED Indicators

The ORiNOCO™ Wireless Client includes two round, green LED indicators on the end of the card.

These LEDs display the following behavior:

- Both LEDs are off when the card is not receiving power or when the ORiNOCO driver is not installed.
- The LEDs blink in an alternating pattern to indicate that the card is searching for an Access Point or Peer-to-Peer Group to communicate with.
- The LEDs blink in unison when the card has associated with an Access Point or joined a Peer-to-Peer Group.
- When there is network activity, the LEDs blink at a faster rate; the LEDs will blink in unison more often as the card's Transmit or Receive Rate increases.

Chapter 6 Appendix A - Specifications

The following technical specification is for reference purposes only.

A-1 General

Compatibility	Fully interoperable with IEEE 802.11a compliant products in 802.11a mode. Fully interoperable with IEEE 802.11b compliant products in 802.11b mode Fully interoperable with IEEE 802.11g compliant products in 802.11g mode (Not all modes are available with all ORiNOCO Wireless Client products)
Warranty	3-years parts and labor (return to factory)
LED Indicators	Two (2) LEDs indicate Power On, Sleep Mode, Transmit Activity, Association, and Power Off.

A-2 Network Information

Security	64, 128 & 152-bit Wired Equivalent Privacy (WEP) data encryption; 802.1x authentication; LEAP; TKIP encryption, AES.
Network Architecture	Supports Ad Hoc Peer-to-Peer Groups and communication to wired infrastructure networks via Access Points
Installation & Diagnostics	Complete configuration utility application included; Utility's site survey tool, surveys other wireless units and reports packet throughput; Desktop icon continuously reports status
Operating System Support	Windows 2000, XP

Roaming	Seamless among 802.11a compliant access points (in 802.11a or 802.11a 2X mode), 802.11b compliant access points (in 802.11b/g modes) and 802.11g compliant access points (in 802.11g mode)

A-3 Radio (802.11a Mode)

Media Access Protocol	IEEE 802.11a
Radio Data Rate	54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps in 802.11a mode; 108 Mbps, 96 Mbps, 72 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps in 2X Turbo mode
Frequency Band (802.11a)	5.15-5.25 GHz (lower band) for US/Canada, Japan 5.25-5.35 GHz (middle band) and 5.725-5.850 for US/Canada 5.15-5.35 GHz, 5.470-5.725 GHz for Europe Actual frequencies in use vary by country
Radio Type	Orthogonal Frequency Division Multiplexing
Modulation	64 QAM, 16 QAM, QPSK, BPSK
Nominal Output Power	15 dBm for 6Mbps (minimum), 13 dBm for 54Mbps (minimum)
Channels	13 non-overlapping channels (US) 4 non-overlapping channels (Japan)

A-4 Radio (802.11b Mode)

Media Access Protocol	IEEE 802.11b DSSS (Direct Sequence Spread Spectrum)
Radio Data Rate	11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps
Frequency Band	2.4 GHz frequency band; actual frequencies in use vary by country
Radio Type	Direct Sequence Spread Spectrum
Modulation	CCK, QPSK, BPSK

Nominal Output Power	18 dBm
Channels	Varies by country

A-5 Radio (802.11g Mode)

Media Access Protocol	IEEE 802.11b DSSS (Direct Sequence Spread Spectrum), IEEE 802.11g OFDM
Radio Data Rate	802.11g: 54 Mbps with fall back rate of 48, 36, 24, 18, 12, 9, and 6Mbps. 802.11b: 11 Mbps with fall back of 5.5, 2 and 1Mbps
Frequency Band	2.4 GHz frequency band; actual frequencies in use vary by country
Radio Type	Direct Sequence Spread Spectrum
Modulation	802.11g: OFDM; 802.11b: CCK (11Mbps, 5.5Mbps), DQPSK (2Mbps, 1Mbps)
Nominal Output Power	Typical 12dBm at 54Mbps, typical 15dBm at 11 Mbps
Channels	11 channels (US, Canada), 13 channels (Europe Countries), 14 channels (Japan)

A-6 Environmental

Operating Temperature	0ºC to +70ºC
Storage Temperature	-10ºC to 75ºC
Non-Operating Humidity	5% to 95% non-condensing

A-7 Physical

Bus Interface	32-bit CardBus
PCB	4-layer design
WLAN	Atheros 5001X solution

Antenna	Dual diversity antennas
Voltage	3.3 VDC
Weight	45 grams
Dimension	54mm x 114.5mm x 5mm

A-8 Power Consumption

Doze Mode (802.11a, 802.11b & 802.11g)	15 mA
Receive (802.11a)	310 mA
Receive (802.11b)	270mA
Receive (802.11g)	330 mA
Transmit (802.11a)	560 mA
Transmit (802.11b)	450 mA
Transmit (802.11g)	600 mA

A-9 Available Transmit Power Settings

User may set the transmit power to the following levels. Maximum power setting will vary according to individual country regulations.

100%

50%

25%

12.5%

Lowest

B

Chapter 7 Appendix B Warranty and Regulatory Information

B-1 Limited Warranty, Disclaimer, Limitation of Liability

For a period of one (1) year from the date of purchase by the retail customer, Proxim warrants the ORiNOCO Wireless Client against defects in materials and workmanship. Proxim will not honor this warranty if there has been any attempt to tamper with or remove the product's external foil label.

This warranty does not cover and Proxim will not be liable for any damage or failure caused by misuse, abuse, acts of God, accidents, or other causes beyond Proxim's control, or claim by any entity other than the original purchaser.

If, after inspection, Proxim determines there is a defect, Proxim will repair or replace the ORiNOCO Wireless Client at no cost to you. To return defective merchandise to Proxim, please contact ORiNOCO Technical Support to obtain a Return Merchandise Authorization (RMA) number.

In no event shall Proxim Corporation be responsible or liable for any damages arising:

- From the use of the product
- From the loss of use, revenue or profit of the product
- As a result of any event, circumstance, action, or abuse beyond the control of Proxim Corporation

Whether such damages are direct, indirect, consequential, special, or otherwise and whether such damages are incurred by the person to whom this warranty extends or a third party.

B-2 Warranty Return Policy

If you have a problem with an ORiNOCO Wireless Client, please contact ORiNOCO Technical Support for assistance. ORiNOCO Technical Support will assist with resolving any technical difficulties you may have with your ORiNOCO Wireless Client. See C-1 Obtaining Technical Service and Support .

After calling ORiNOCO Technical Support, if your product is found to be defective, you may return the product to Proxim after obtaining an RMA (Return Merchandise Authorization) number. The product must be returned in its original packaging. The RMA number should be clearly marked on the outside of the box. Proxim cannot be held responsible for any product returned without an RMA number, and no product will be accepted without an RMA number.

B-3 Regulatory Information

USA – Federal Communication Commission (FCC)

FCC Class B Statement

This device complies with Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

(1) This device may not cause harmful interference

(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC RF Safety Requirement

The radiated output power is far below the FCC radio frequency exposure limits.

(1) Shielded cables, if any, must be used in order to comply with the emission limits.

(2) Any change or modification not expressly approved by the grantee of the equipment authorized could void the user authority to operate the equipment.

B-4 FCC WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the

instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

!! **Caution** !! For your health sake, please keep at least 20 cm away from your Notebook LCD Panel while using wireless LAN.

B-5 European Regulatory Information

Products labeled with the CE 0336 (!) contain a radio transmitter that complies with the R&TTE Directive 1999/5/EC implying conformity to the following European Norms.

Les produits portant la marque d'alerte CE 0336 (!) contiennent un émetteur radio conforme à la directive R&TTE (1999/5/EC) qui impliquent la conformité aux normes de la Commission de la Communauté Européenne.

I prodotti che recano l'avvertenza CE 0336 (!) contengono un trasmettitore radio conforme alla Direttiva R&TTE (1999/5/EC) emessa dalla Commissione della Comunità Europea.

Funkprodukte mit der CE 0336 (!) Kennzeichnung enthalten einen Funktransmitter, der die von der Kommission der EU verabschiedete Richtlinie R&TTE (1999/5/EC) erfüllt.

Los productos con la marca CE0336 (!) contienen un transmisor de radio que cumple con la Directiva R&TTE (1999/5/EC) emitida por la Comisión Europea.

- IEC60950, Third Edition (1999)/CB Scheme - Product Safety

- EN 300328 - Radio LAN equipment operating in the 2.4 GHz band
- EN 301893 - Radio LAN equipment operating in the 5 GHz band
- EN 301489-17 - General EMC requirements for radio equipment

To determine the type of transmitter, check the product identification label on your Wireless LAN product.

Pour identifier le type d'émetteur, reportez-vous à l'étiquette d'identification de votre. produit.

Per determinare il tipo di trasmettitore, controllare la targhetta di identificazione del prodotto.

Um welchen Transmittertyp es sich handelt, können Sie auf dem Typenschild auf dem Produkt ablesen.

Para determinar el tipo de transmisor, compruebe la etiqueta de identificación del producto.

B-6 Product Approvals

Proxim will only ship products that are type approved in the destination country.

For ORiNOCO Wireless Client Users in Europe: In 802.11a mode, you must use the ORiNOCO 11a/b/g Wireless Client with an 802.11a Access Point that supports Dynamic Frequency Selection (DFS). The European Telecommunications Standard Institute (ETSI) requires that 802.11a devices use DFS to prevent interference with radar systems and other devices that already occupy the 5 GHz band. See the user documentation that came with your 802.11a Access Point for details.

Check Proxim's Web site (http://www.proxim.com/) for the most up-to-date regulatory information or contact Proxim Technical Support if you have questions regarding product certification or cannot find regulatory information for your country.

C

Chapter 8 Appendix C Technical Support and Glossary

C-1 Obtaining Technical Service and Support

If you are having issues utilizing your Proxim product, please consult this manual and the additional documentation provided with your product.

If you require additional support and would like to use Proxim's free Technical Service to help resolve your issue, please be ready to provide the following information before you contact Proxim's Technical Services:

- Product information
  - Part number of suspected faulty unit
  - Serial number of suspected faulty unit
- Trouble/Error information:
  - Trouble/symptom being experienced
  - Activities completed to confirm fault
  - Network information (what kind of network are you using?)
  - Circumstances that preceded or led up to the error
  - Message or alarms viewed
  - Steps taken to reproduce the problem
- Servpak information (if a Servpak customer):

  - Servpak account number

- Registration information:
  - If the product is not registered, date when you purchased the product
  - If the product is not registered, location where you purchased the product

NOTE:*If you would like to register your product now, visit the Proxim Wireless eService Web site at http://support.proxim.com and click on* ***New Product Registration****.*

C-2 Support Options

Proxim eService Web Site Support

The Proxim eService Web site is available 7x24x365 at [http://support.proxim.com.](http://support.proxim.com)

Once you access the Proxim eService Web Site, you can access the following services:

- **New Product Registration**: Register your product for free support.
- **Open a Ticket or RMA**: Open a ticket or RMA and receive an immediate reply.
- **Search Knowledgebase**: Locate white papers, software upgrades, and technical information.
- **ServPak (Service Packages)**: Receive Advanced Replacement, Extended Warranty, 7x24x365 Technical Support, Priority Queuing, and On-Site Support.
- **Your Stuff**: Track status of your tickets or RMAs and receive product update notifications.
- **Provide Feedback**: Submit suggestions or other types of feedback.
- **Customer Survey**: Submit an On-Line Customer Survey response
- **Repair Tune-Up**: Have your existing Proxim equipment inspected, tested, and upgraded to current S/W and H/W revisions, and extend your warranty for another year.

Telephone Support

Contact technical support via telephone as follows:

- **Domestic**: 866-674-6626

- **International**: +1-408-542-5390

Hours of operation:

- **North America**: 8 a.m. to 5 p.m. PST, Monday through Friday
- **EMEA**: 8 a.m. to 5 p.m. GMT, Monday through Friday

ServPak Support

Proxim Wireless understands that service and support requirements vary from customer to customer. It is our mission to offer service and support options that go above-and-beyond normal warranties to allow you the flexibility to provide the quality of service that your networks demand.

In recognition of these varying requirements we have developed a support program called ServPak. ServPak is a program of Enhanced Service Options that can be purchased individually or in combinations to meet your needs.

- **Advanced Replacement**: This service offers customers an advance replacement of refurbished or new hardware. (Available in the U.S., Canada, and select countries. Please inquire with your authorized Proxim Wireless distributor for availability in your country.)
- **Extended Warranty**: This service provides unlimited repair of your Proxim hardware for the life of the service contract.
- **7x24x365 Technical Support**: This service provides unlimited, direct access to Proxim's world-class technical support 24 hours a day, 7 days a week, 365 days a year.
- **Priority Queuing**: This service allows your product issue to be routed to the next available Customer Service Engineer.

To purchase ServPak support services, please contact your authorized Proxim distributor. To receive more information or for questions on any of the available ServPak support options, please call Proxim Support at +1-408-542-5390 or send an email to servpak@proxim.com.

C-3 Glossary

PCU - Proxim Client Utility (PCU); the utility that configures the ORiNOCO Wireless Client.

Access Point - An internetworking device that seamlessly connects wired and wireless networks together.

Ad Hoc - A peer- to-peer wireless network without Access Point. A group of wireless clients consistent an independent wireless LAN.

Backbone - The core infrastructure of a network, the portion of the network that transports information from one central location to another central location. The information is then off-loaded onto a local system.

BSS - Basic Service Set. An Access Point associated with several wireless stations.

ESS - Extended Service Set. More than one BSS can be configured as an Extended Service Set. An ESS is basically a roaming domain.

ESSID – Extended Service Set Identifier. The length of the ESSID information is between 0 and 32 octets. A 0 length identifier indicates the broadcast SSID.

Ethernet - A popular local area data communications network, originally developed by Xerox Corp., which accepts transmission from computers and terminals. Ethernet operates on 10/100 Mbps transmission rate over shielded coaxial cable or over shielded twisted pair telephone wire.

Infrastructure - An integrated wireless and wired LAN is called an infrastructure configuration.

Roaming - A function that allows one to travel with a mobile end system (wireless LAN mobile station, for example) through the territory of a domain (an ESS, for example) while continuously connecting to the infrastructure.

SSID – Service Set Identifier (SSID) is the network name used by the Wireless LAN. The length of the SSID information is between 0 and 32 octets.

WEP – Wired Equivalent Privacy is the optional cryptographic confidentiality algorithm specified by IEEE 802.11 used to provide data confidentiality that is subjectively equivalent to the confidentiality of a wired local area network (LAN) medium that does not employ cryptographic techniques to enhance privacy.